

Amendments to the Claims

Listing of Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Previously presented) An electromigration test apparatus having:
 - a direct-current (DC) voltage source;
 - an alternating-current (AC) voltage source;
 - a circuit having at least one conductive structure to be tested, which is electrically coupled to the DC source and the AC source, the DC source exposes the conductive structure to a DC current in order to cause electromigration in the conductive structure, the AC source exposes the conductive structure to an AC current in order to heat the conductive structure to a predetermined temperature, wherein the AC current is independent of the DC current and is superposed on the DC current; and
 - a measuring device, which is set up in such a way that the measuring device detects an electrical parameter which is indicative of electromigration in the conductive structure to be tested.

2. (Previously presented) The apparatus according to Claim 1, the electrical parameter being a resistance of the conductive structure to be tested.

3. (Previously presented) The apparatus according to Claim 1, which furthermore has an evaluation unit for determining an electrical power, the evaluation unit having a voltage measuring device and a current measuring device which are implemented in the circuit in such a way that, by means thereof, a root-mean-square current through the conductive structure to be tested and a root-mean-square voltage across the conductive structure to be tested can be detected.

4. (Previously presented) The apparatus according to Claim 1, a control device being provided, which is set up in such a way that the control device controls the AC voltage source in such a way that the temperature of the conductive structure to be tested can be kept constant.

5. (Previously presented) The apparatus according to Claim 1, the conductive structure to be tested being arranged on or in a semiconductor wafer.

6. (Previously presented) The apparatus according to Claim 1, the alternating-current source and the direct-current source being integrated in one generator.

7. (Previously presented) The apparatus according to Claim 1, which furthermore has a heating furnace set up in such a way that the heating furnace heats the conductive structure to be tested.

8. (Previously presented) A Method for testing a conductive structure for electromigration, having the following steps:

electrically coupling a conductive structure to be tested to an electrical circuit electrically coupled to a direct-current source and an alternating-current source;

supplying the conductive structure to be tested with a direct-current which causes electromigration within the conductive structure to be tested;

heating the conductive structure to be tested by means of the alternating-current to a predetermined temperature, the alternating-current is independent of the direct-current and is

superposed on the direct-current; and

detecting an electrical parameter which is indicative of the electromigration within the conductive structure to be tested.

9. (Previously presented) The method according to Claim 8, a resistance of the conductive structure to be tested being detected as the electrical parameter.

10. (Previously presented) The method according to Claim 8, in which, as further steps, a root-mean-square current in the conductive structure to be tested and a root-mean-square voltage across the conductive structure to be tested are detected and an electrical power is determined therefrom.

11. (Previously presented) The method according to Claim 8, the temperature of the conductive structure to be tested being regulated to a constant value by means of the-an evaluation unit.

12. (Previously presented) The method according to Claim 8, the conductive structure to be tested being formed on or in a semiconductor wafer.